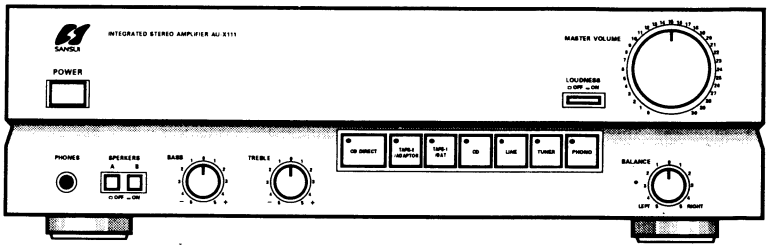
SANSUI

SERVICE MANUAL

AU-X111

INTEGRATED AMPLIFIER



CAUTION

1. Parts identified by the ⚠ symbol on the schematic diagram and the parts list are criticalfor safety.
   Use only replacement parts that have critical characteristics recommended by the manufacturer.
2. Make leakage-current or resistance measurements to determine that exposed parts are acceptably insulated from the supply circuit before returning the appliance to the customer.

NOTICE

The symbols, UK, EU, EG, SS and XX <EXPORT> on the parts list and the schematic diagram mean followings respectively.

UK..... Manufactured for United Kingdom market.
EU..... Manufactured for European market.
EG..... Manufactured for F.R. Germany market.
SS..... Manufactured for Saudi Arabian market.
XX <EXPORT>..... Standard Version.
NON MARK..... Common Parts.

Specifications

Power output
Min. RMS, both channels driven, from 20 to 20,000 Hz, with no more than 0.03% total harmonic distortion.
30 watts per channel into 8 ohms.
DIN
40 watts per channel into 8 ohms.
Load impedance..... 4 to 16 ohms
Intermodulation distortion (60 Hz: 7 kHz = 4:1 SMPTE method)
..... less than 0.03% at rated power output
Frequency response (at 1 watt)
Overall (from CD)..... 10 to 70,000 Hz, +1 dB, –3 dB
RIAA curve deviation (PHONO-MM, 20 Hz to 20 kHz)
..... +0.5 dB, –0.5 dB
Input sensitivity and impedance (at 1 kHz)
PHONO (MM)..... 2.5 mV/47 kohms
(Max. input capability: 140 mV at 1 kHz, less than 0.1% total harmonic distortion)
CD, TUNER, LINE..... 150 mV/35 kohms
TAPE-1/DAT,TAPE-2/ADAPTOR... 150 mV/35 kohms
Output level (1,000 Hz)
TAPE/REC..... 150 mV into 47 kohms

Signal to noise ratio (short-circuit, A-network)
PHONO (MM)..... 78 dB
CD, TUNER, LINE..... 105 dB
Controls and Filter
BASS..... ±8 dB at 50 Hz
TREBLE..... ±8 dB at 10 kHz
LOUDNESS..... +6 dB at 50 Hz
(VOLUME: –30 dB position) +6 dB at 10 kHz

Power requirements..... AC 120 V/220 V/240 V, 50/60 Hz
Power consumption..... 165 watts
270 watts Maximum
Dimensions..... 430 mm (16-15/16") W
125mm (4-15/16") H
286 mm (11-5/16") D
Weight..... 5.0 kg (11.0 lbs) net
6.0kg (13.2 lbs) packed

* **Design and specifications subject to change without notice for improvements.**
* **Due to local laws and regulations, this unit sold in some areas are not equipped with variable voltage selectors.**

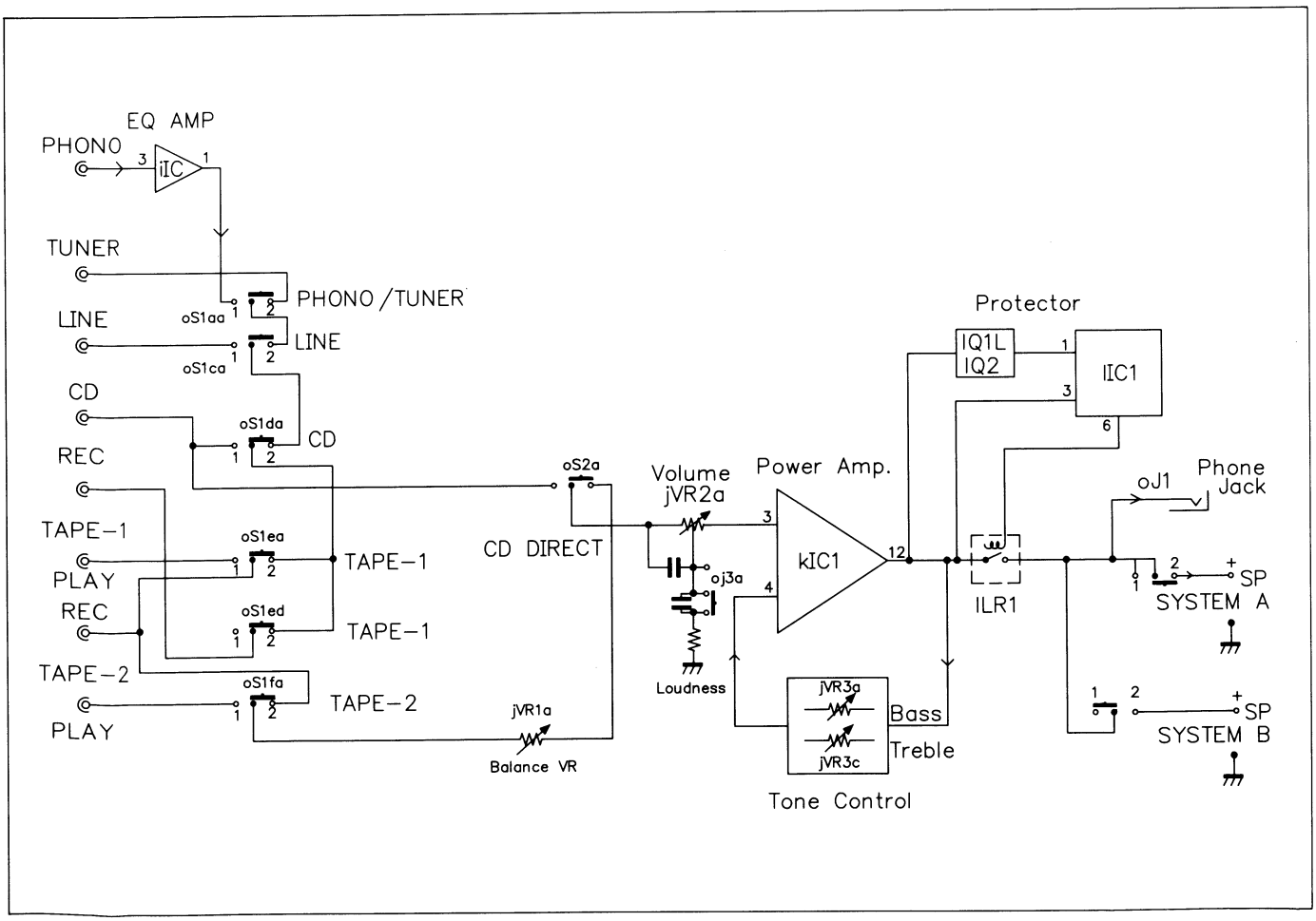
Note to use Service Manual

1. Some printed circuit boards are not supplied assembled. To separate these in this service manual, the stock numbers are not indicated for these boards. However, stock numbers for individual parts are indicated.
2. Since some capacitors and resistors are omitted from parts lists in this service manual, refer to the Common Parts List for capacitors and resistors, which was issued on June 1987.
3. Abbreviations in this service manual are as follows.

•Abbreviations List

N.I.R.	: Non-Inflammable Resistor
C.R.	: Carbon Resistor
Ce.R.	: Cement Resistor
M.R.	: Metal Film Resistor
F.R.	: Fusing Resistor
A.R.	: Array Resistor
C.C.	: Ceramic Capacitor
C.T.	: Ceramic Capacitor, Temperature Compensation
E.C.	: Electrolytic Capacitor
E.L.	: Low Leak Electrolytic Capacitor
E.B.	: Bi-Polar Electrolytic Capacitor
E.B.L.	: Low Leak Bi-Polar Electrolytic Capacitor
Ta.C.	: Tantalum Capacitor
F.C.	: Film Capacitor
M.P.	: Metalized Paper Capacitor
P.C.	: Polystyrene Capacitor
M.M.C.	: Metalized Mylar Capacitor
A.C.	: Array Capacitor
V.R.	: Variable Resistor
S.V.R.	: Semi Variable Resistor
SW.	: Switch

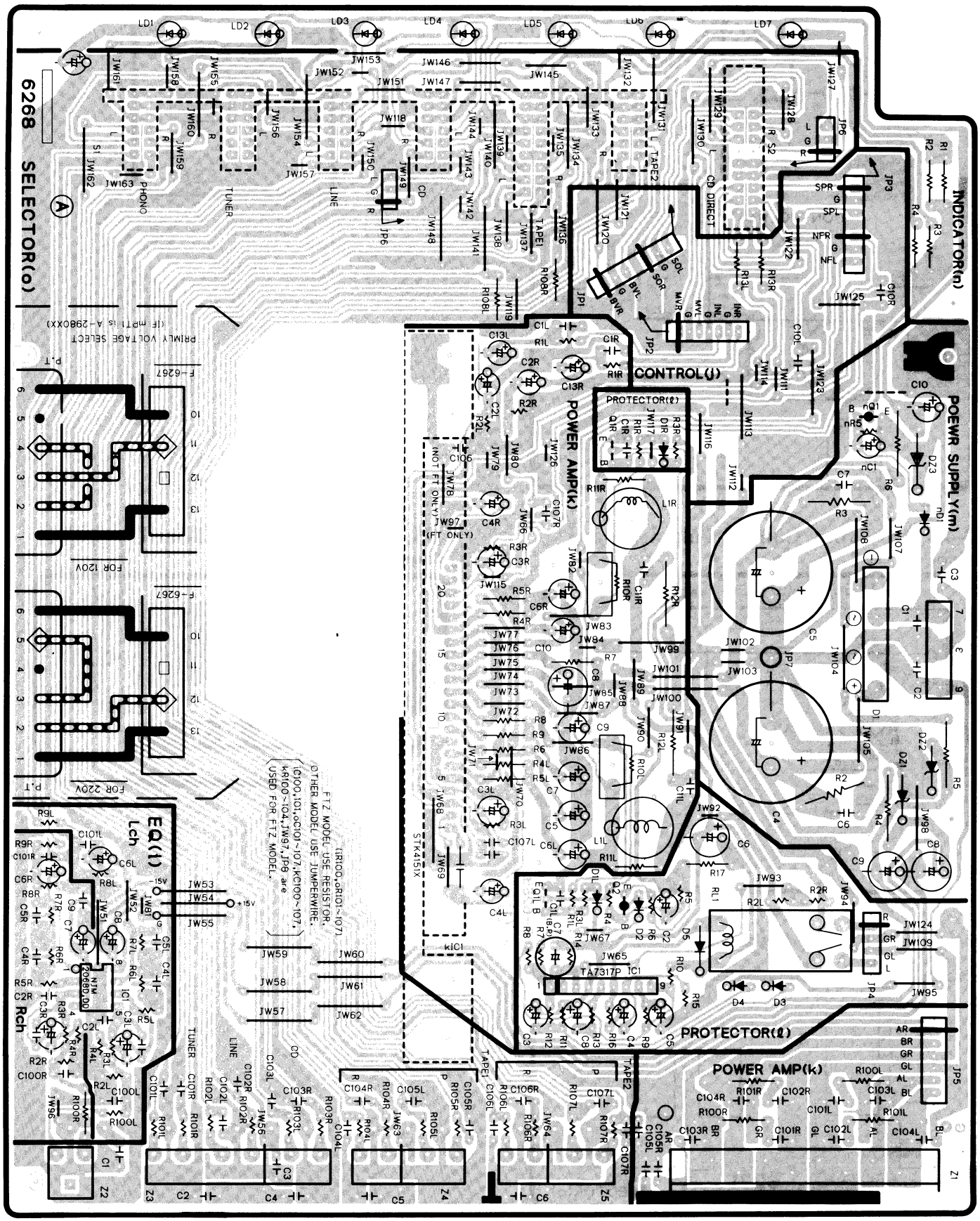
1. BLOCK DIAGRAM



2. PARTS LOCATION ON BOARD

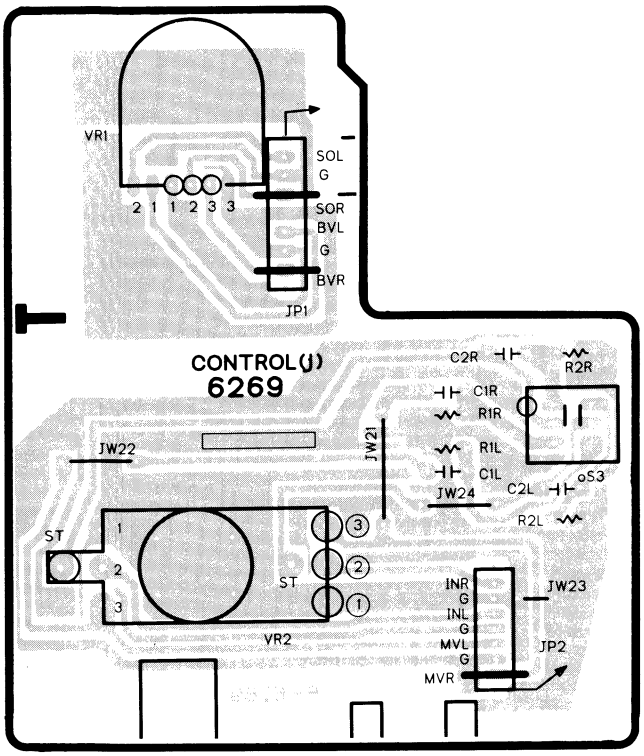
2-1. F-6268 Main Board

Component Side



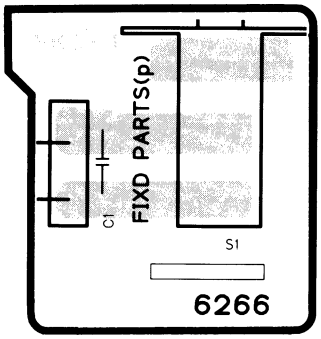
2-2. F-6269 Volume Board

Component Side



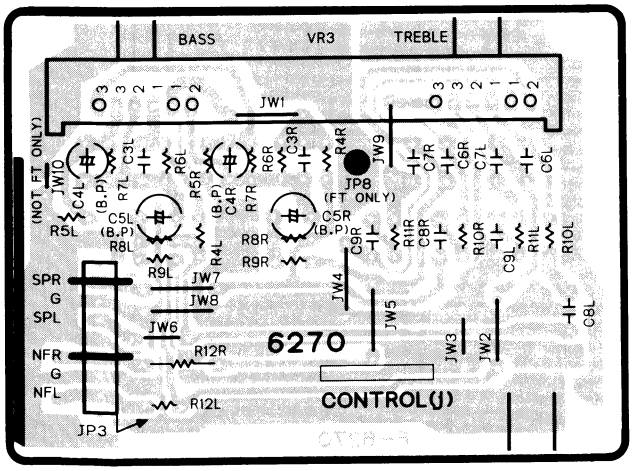
2-3. F-6266 Power Switch Board

Component Side



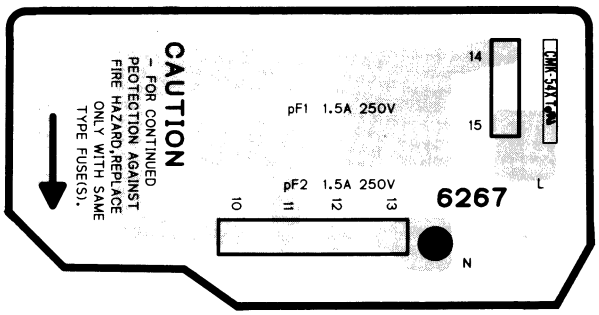
2-4. F-6270 Tone Control Volume Board

Component Side



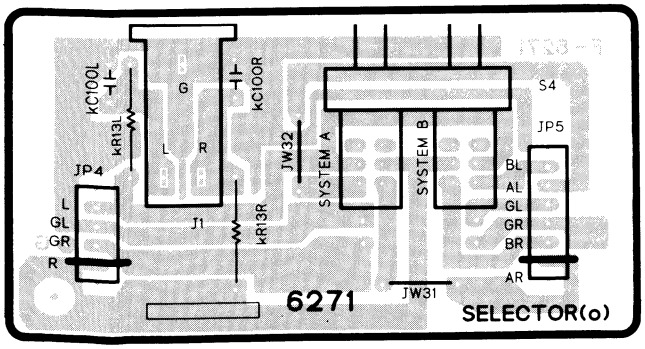
2-5. F-6267 Power Fuse Board

Component Side



2-6. F-6271 Headphone Jack Board

Component Side



3. PARTS LIST OF BOARD

3-1. F-6268 Main Board <Stock No. 01202601=XX, SS/01202605=EU, UK/01202608=EG>

Parts No.	Stock No.	Description
•IC		
iIC1	49263900	NJM2068D
or	49264000	NJM2068D-D
iC2	48663000	220pF 50V C. C.
iC100	48663400	470pF 50V C. C. <EG>
iC101	48662600	100pF 50V <EG>
⚠ kIC1	49480000	STK4151-X
kC105	48663000	220pF 50V C. C. <EG>
kC106	48666200	0.01μF 50V C. C. <EG>
kC107	48662600	100pF 50V C. C. <EG>
kL1	46851901	Filter Coil, 0.82μH
kR4, 5	46405000	3.3kΩ 1/2W N. I. R.
kR6	46403200	100Ω 1/2W N. I. R.
kR8, 9	46404400	1kΩ 1/2W N. I. R.
⚠ kR10	49283300	0.22Ω 3W Ce. R.
⚠ kR100, 101	46240800	4.7Ω 1W N. I. R.
•Transistor		
1Q1	46391901	2SC2785
or	48058801	2SC1740S
1Q2	46392001	2SA1175
or	48058601	2SA933S
•IC		
⚠ 1IC1	46207600	TA7317P
•Diode		
1D1~4	46464100	1SS133
1D5	48123600	11E2
1C1	48426900	22000pF 25V C. C.
1C7	48101500	100μF 6.3V E. B.
1R17	46404200	680Ω 1/2W N. I. R.
1RL1	48183100	Relay, DC 24V
or	48183200	Relay
⚠ mD1	49482000	RBA-402
•Zener Diode		
mDZ1	49306000	05AZ15-X
or	49306100	05AZ15-Y
or	49306200	05AZ15-Z
mDZ2	49306000	05AZ15-X
or	49306100	05AZ15-Y
or	49306200	05AZ15-Z
mDZ3	03171100	RD18F B
or	03171200	RD18F B3
⚠ mR2, 3	46244600	6.8kΩ 1W N. I. R.
⚠ mR4, 5	46243800	1.5kΩ 1W N. I. R.
⚠ mR6	46625300	680Ω 2W N. I. R.
mC4	49114800	4700μF 42V E. C. <XX, SS>
or	49505700	5600μF 42V E. C. <XX, SS>
mC5	49114800	4700μF 42V E. C. <XX, SS>
or	49505700	5600μF 42V E. C. <XX, SS>
•Transistor		
nQ1	46834200	DTA144ES
•Diode		
nD1	46464100	1SS133
•LED		
nLD1	49379000	SEL2910A, PHONO
nLD2	49379000	SEL2910A, TUNER
nLD3	49379000	SEL2910A, LINE
nLD4	49379000	SEL2910A, CD
nLD5	49379000	SEL2910A, TAPE 1

<F-6268>

Parts No.	Stock No.	Description
nLD6	49378800	SEL2210S, TAPE 2
nLD7	49378800	SEL2210S, CD DIRECT
oC2~6	48426900	2200pF 25V C. C.
oC101~103	48663400	470pF 50V C. C. <EG>
oC104	48663200	330pF 50V C. C. <EG>
oC105	48663400	470pF 50V C. C. <EG>
oC106	48663200	330pF 50V C. C. <EG>
oC107	48663400	470pF 50V C. C. <EG>
oS1	49481500	Push, SW., FUNCTION
oS2	49481600	Push, SW., CD DIRECT
oZ1	46947500	8P Speaker Terminal
oZ2	48528400	2P TERMINAL BOARD, PHONO
oZ3	48528600	6P TERMINAL BOARD, CD, LINE, TUNER
oZ4	48528500	4P TERMINAL BOARD, TAPE 1
oZ5	48528500	4P TERMINAL BOARD, TAPE 2

3-2. F-6266 Power Switch Board

Component Side

Parts No.	Stock No.	Description
⚠ pC1	48732700	0.01μF 400V C. C.
⚠ or	48733500	0.01μF 400V C. C.
⚠ or	48734400	0.01μF 400V C. C.
⚠ pS1	46364300	Push SW., POWER

3-3. F-6267 Power Fuse Board

Component Side

Parts No.	Stock No.	Description
⚠ pF1	07184800	AC Fuse 1.25A <EU, UK, EG>
⚠ pF1	48721200	AC Fuse 1.5A <XX, SS>
⚠ pF2	48721200	AC Fuse 1.5A <XX, SS>

3-4. F-6269 Volume Board

Component Side

Parts No.	Stock No.	Description
jVR1	49481000	250 KMN V. R., BALANCE
jVR2	49480900	150 KB×2 V. R., VOLUME
oS3	49481400	Push Switch, LOUDNESS

3-5. F-6270 Tone Control Volume Board

Component Side

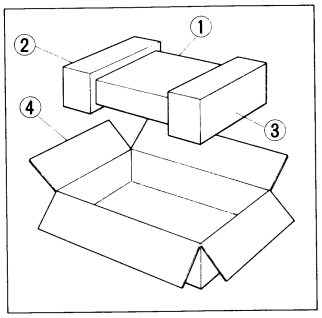
Parts No.	Stock No.	Description
jC4	48103000	0.22μF 50V E. B.
jC5	48103700	4.7μF 50V E. B.
jVR3	49480800	50kΩ V. R. TONE CONTROL

3-6. F-6271 Headphone Jack Board

Component Side

Parts No.	Stock No.	Description
⚠ kR13	46242800	220Ω 1W N. I. R.
oS4	49481700	Push SW., SYSTEM
oJ1	49495100	Headphone Jack

4. PACKING & ACCESSORY LIST

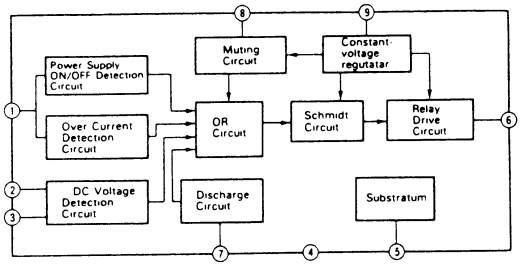


Parts List

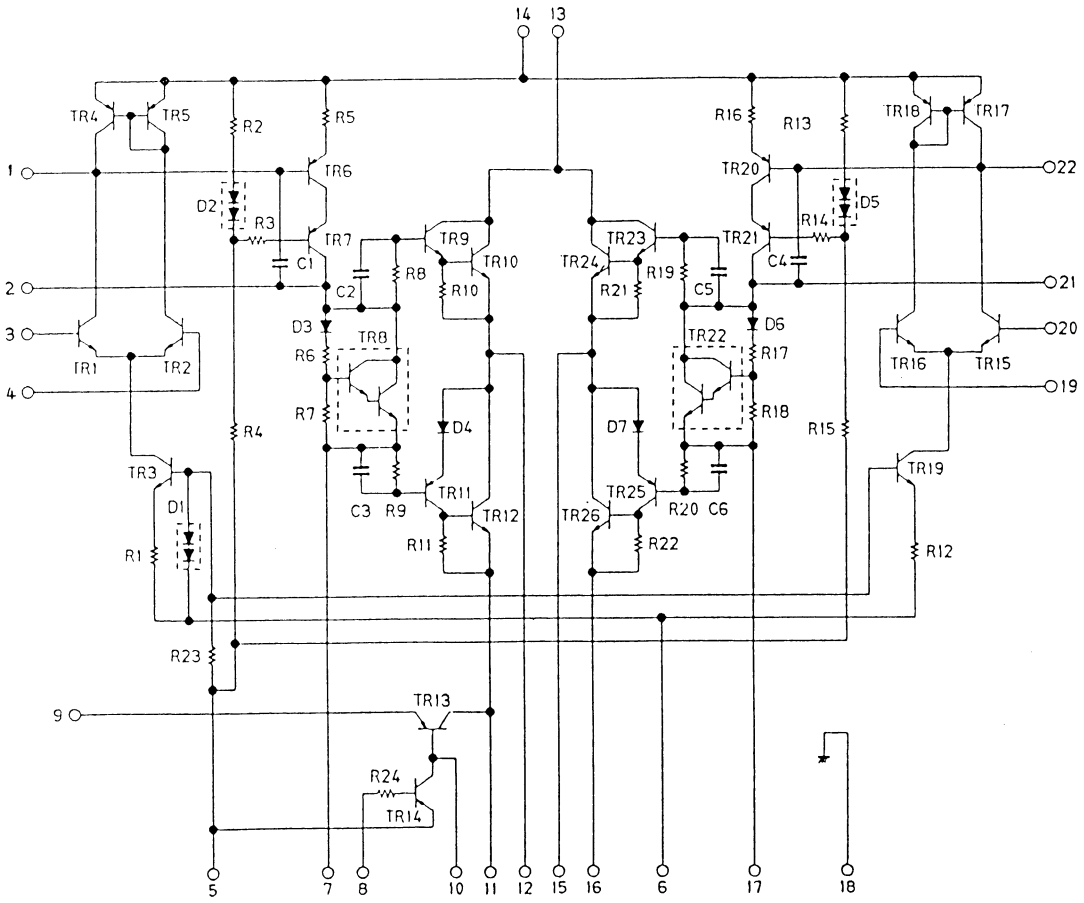
Parts No.	Stock No.	Description
1	47859100	Vinyl Bag
2	27831500	Styrofoam Packing, left
3	27831600	Styrofoam Packing, right
4	27831400	Carton Case
	19061900	Operating Instractions

5. INTERIOR BLOCK DIAGRAM OF IC

● **TA7317P (Protector)**

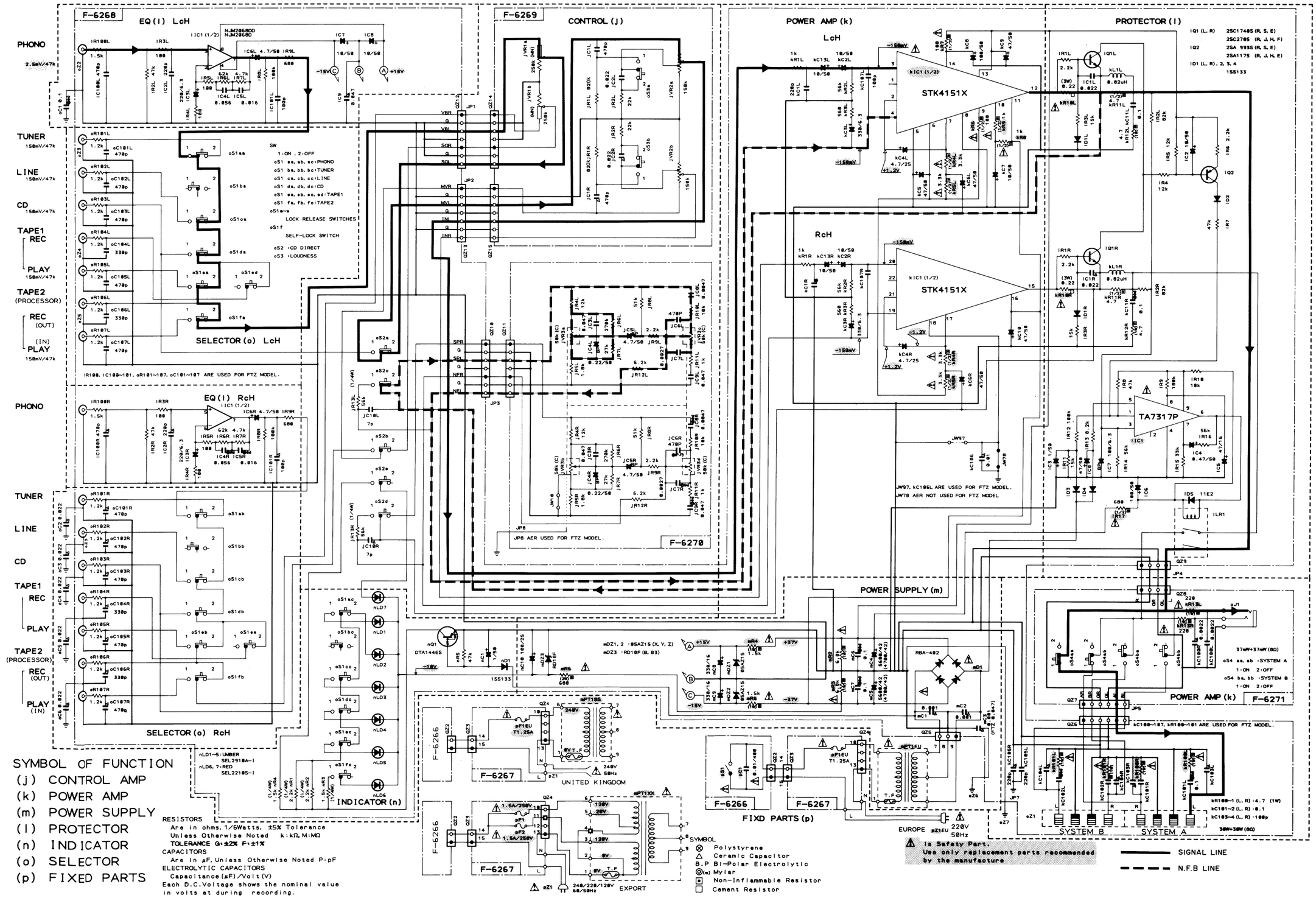


● **STK4151X(Power Amp.)**



6. SCHEMATIC DIAGRAM

- Design and specifications subject to change without notice for improvement.
- La présention et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.
- Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.



SYMBOL OF FUNCTION
- (j) CONTROL AMP
- (k) POWER AMP
- (m) POWER SUPPLY
- (l) PROTECTOR
- (n) INDICATOR
- (o) SELECTOR
- (p) FIXED PARTS

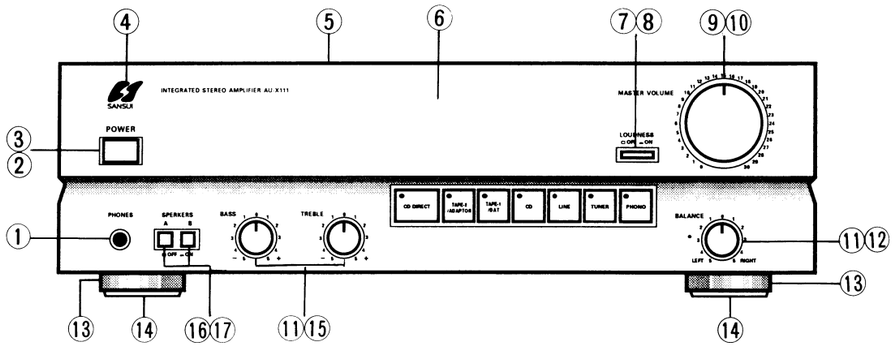
RESISTORS
Are in ohms, 1/6Watts, ±5% Tolerance
Unless Otherwise Noted k:kΩ, M:MΩ
TOLERANCE G:±2% F:±1%
CAPACITORS
Are in μF, Unless Otherwise Noted P:pF
ELECTROLYTIC CAPACITORS
Capacitance(μF)/Volt(V)
Each D.C.Voltage shows the nominal value in volts at during recording.

SYMBOL
- Polystyrene
- Ceramic Capacitor
- B.P Bi-Polar Electrolytic
- Mylar
- Non-Inflammable Resistor
- Cement Resistor

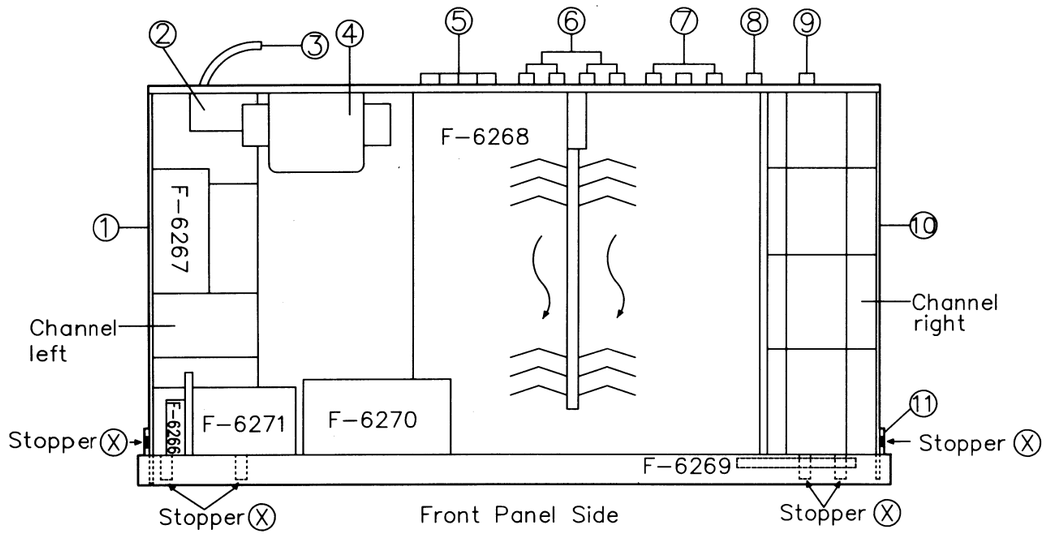
⚠ is Safety Part. Use only replacement parts recommended by the manufacture

7. OTHER PARTS

<Front View>



<Top View>



Parts List <Front View>

Parts No.	Stock No.	Description
1	49495100	Headphone Jack
⚠ 2	46364300	Push SW., POWER
3	27821500	Knob, POWER
4	27833300	Logo Badge
5	27835300	Bonnet
6	27826200	Front Panel A, Outside
7	49481400	Push SW., LOUDNESS
8	27821400	Knob, LOUDNESS
9	27821210	Knob, VOLUME
10	49480900	VOLUME, 150kΩ
11	27821300	Knob, TONE/BALANCE
12	49481000	BALANCE Volume, 250kΩ
13	27857010	Lug for Leg
14	27842000	Leg Sheet
15	49480800	Tone Control VR., 50kΩ
16	84580000	Knob, SPEAKERS
17	49481700	Push SW., SPEAKERS

Parts List <Top View>

Parts No.	Stock No.	Description
1	27820710	Channel, left
2	47157300	AC Cord Cover
⚠ 3	46407700	Power Supply Cord <XX>
⚠	48837700	Power Supply Cord <SS>
⚠	49299300	Power Supply Cord <EU, EG>
⚠	49252900	Power Supply Cord <UK>
⚠ 4	15036901	Power Transformer <XX, SS>
⚠	15036905	Power Transformer <EU, EG>
⚠	15036906	Power Transformer <UK>
5	46947500	8P Speaker Terminal
6	48528500	4P Terminal, TAPE 1/TAPE 2
7	48528600	6P Terminal, CD/LINE/TUNER
8	48528400	2P Terminal, PHONO
9	22301510	Ground Terminal
10	27820810	Channel, right
11	27835800	Front Panel B, inside (refer to Fig. 8-1 on page 7)

8. REPLACEMENT OF THE FRONT PANEL

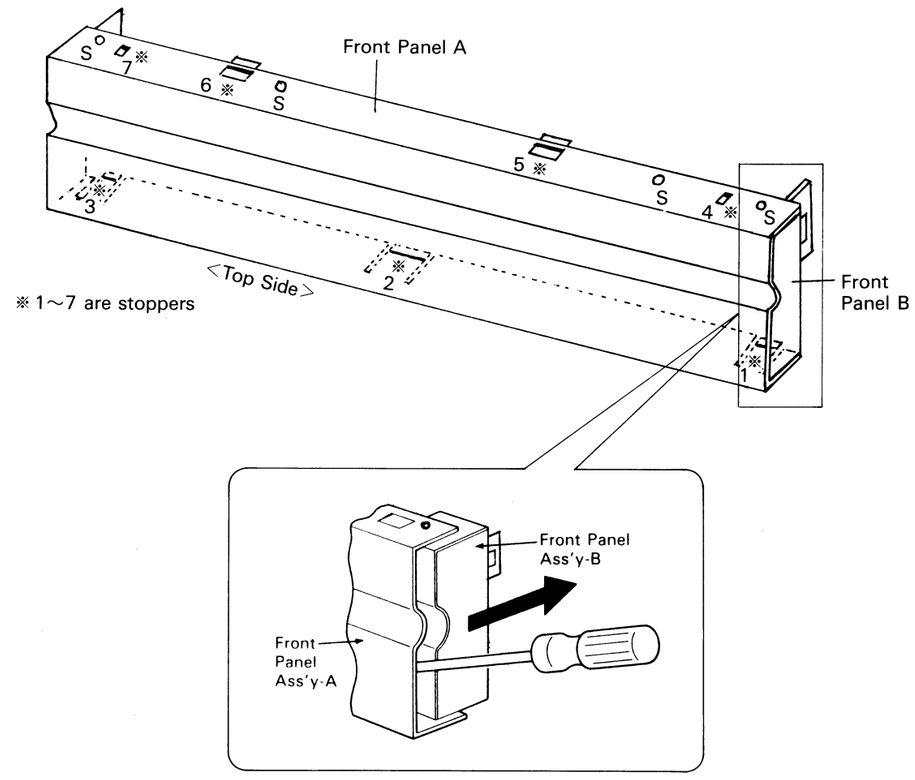
A. How to remove the Front Panel A and B

1. Remove the bonnet.
2. Remove the four fixing screws Ⓢ of front panel.
3. Pull out the four knobs.
4. Loosen the four nuts to remove the volume.
5. Remove the four board, F-6271, F-6266, F-6270, F-6269 from front panel B.
6. Unhook six stoppers Ⓧ to remove the front panel from set. (Refer to Top View on page 7)
7. Pull out the front panel A and B from channel right & left.

B. How to remove the Front Panel B from Front Panel A

1. Remove the front panel A and B from set.
2. Unhook a stopper 1.
3. Inset the flattype driver as Fig. 8-1.
4. To separate the front panel A and B, unhook six stoppers in order from ※2 to ※7, in all while pushing a front panel ass'y B to the arrow direction.

Fig. 8-1



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